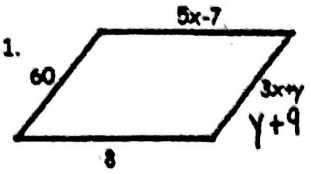
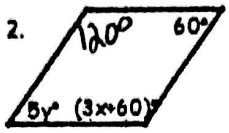
Geometry
Unit 7 Review Sheet

Name: Mr. Morton
Date: _____ Period: _____

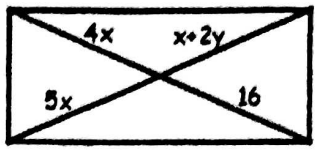
Determine the value of x and y so that the quadrilateral is a parallelogram.

1. 

x= 3 y= 51

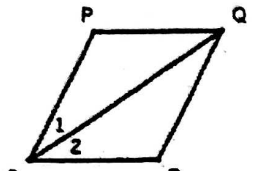
2. 

x= 20 y= 12

3. 

x= 4 y= 8

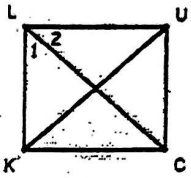
4. PQRS is a rhombus. If $m\angle PQR = 5x+14$ and $m\angle 1 = 3x-1$, find x and the $m\angle 2$.



$2(3x-1) = 5x+14$
$6x-2 = 5x+14$

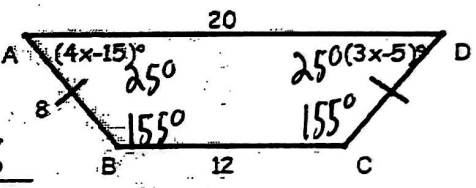
x= 16 $m\angle 2$ = 47°

5. LUCK is a square. Find x and $m\angle 1$, if $m\angle 1 = 4x+25$ and $m\angle 2 = 5x+20$.



x= 5 $m\angle 1$ = 45°

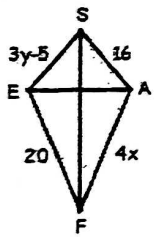
6. ABCD is a trapezoid with bases AD and BC. Find the following.



x= 10 $m\angle A$ = 25° $m\angle B$ = 155°

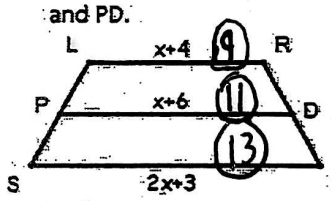
$m\angle C$ = 155° $m\angle D$ = 25° DC= 8 Median= 16

7. SAFE is a kite. Find x and y.



x= 5
y= 7

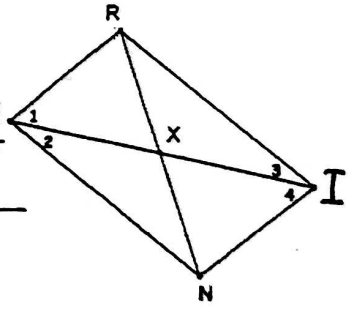
8. LRHS is an isosceles trapezoid. Find x and PD.



x= 5
PD= 11

$\frac{1}{2}(2x+3+x+4) = x+6$

9: GRIN is a parallelogram. Find each measure.



a) RI = 8; GN = 8 b) GI = 20; GX = 10 c) $m\angle GRI = 100$; $m\angle ING$ = 100° $m\angle RIN$ = 80°

d) If $m\angle 4 = 40$ and $m\angle 3 = 15$, then $m\angle 1$ = 40° e) Find x if RX = 7x − 3 and XN = 4x + 9. x = 4

$3x = 12$

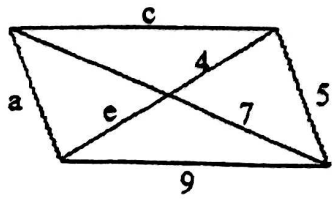
f) If GN = 4y + 3 and RI = 3y + 10, find y and *RI*. Y = 7 RI = 31

g) Find x if $m\angle 3 = 3x+1$, $m\angle 4 = 5x-5$, and $m\angle RGN = 54$. x = 7.25

$3x+1+5x-5 = 54$
$8x-4 = 54$

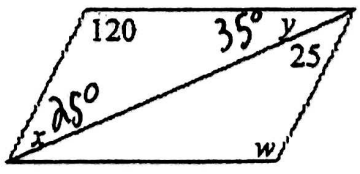
10. Each quadrilateral is a parallelogram. Find the values of each variable.

a)



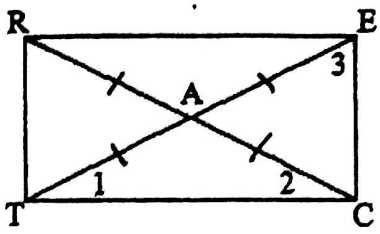
a= 5
c= 9
e= 4

b)



x= 25°
y= 35°
w= 120°

11. RECT is a rectangle. Find each measure.

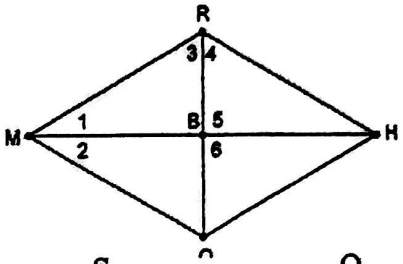


a) RA = 5 ; TE = 10 b) ET = 12 ; RC = 12 c) m∠1 = 18 ; m∠2 = 18°

d) m∠1 = 4n ; m∠3 = 8n − 6 ; n = 8 e) RA = 7x − 8 ; AE = 6x ; TE = 96

4n + 8n − 6 = 90 X = 8

12. RHOM is a rhombus.

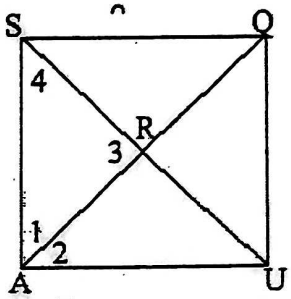


a) MB = 8 ; BH = 8 b) m∠3 = 42 ; m∠4 = 42° ; m∠1 = 48°

c) RM = 12 ; MO = 12 d) m∠1 = 6x − 4 ; m∠2 = 3x + 5 ; x = 3

e) m∠1 = 2x ; m∠3 = 7x ; x = 10 ; m∠1 = 20°

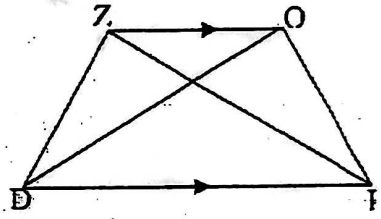
13. SQUA is a square.



a) m∠2 = 9x ; x = 5 b) m∠3 = 10x ; x = 9

c) SA = 5x − 9 ; AU = 2x + 15 ; x = 8 ; m∠U = 31

14. ZOID is an isosceles trapezoid.

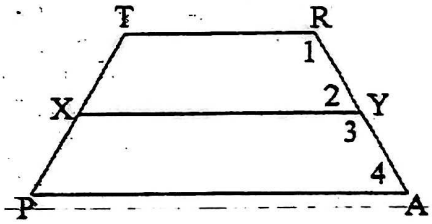


a) ZI = 17 ; OD = 17 b) ZD = 11 ; OI = 11

c) ZO = 6 ; DI = 10 ; perimeter of ZOID = 30 ; ZD = 7

d) m∠ZOI = 140 ; m∠OID = 40° ; m∠OZD = 140°

15. TRAP is a trapezoid with median $\overline{XY}$.



a) TR = 6 ; PA = 12 ; XY = 9 b) PA = 17 ; XY = 14 ; TR = 11

c) RY = 9x − 4 ; YA = 3x + 26 ; x = 5 9x − 4 = 3x + 26

d) m∠1 = x + 100 ; m∠3 = 5x − 60 ; x = 40 ; m∠4 = 40°

16. True or False?

a) False All rhombuses are squares.

b) True All squares are rectangles.

c) True The consecutive angles of a parallelogram are supplementary.

d) True The diagonals of a rhombus are perpendicular.

e) False The sum of the degrees in a quadrilateral is 180°.

f) False The diagonals of any parallelogram are congruent to each other.

g) False Kites are parallelograms.

h) True The median of a trapezoid is parallel to the bases.

i) False A trapezoid can have 2 pairs of parallel sides.

j) False In an isosceles trapezoid, the bases are both congruent and parallel.

STUDY ALL PROPERTIES!!! STUDY REVIEW MATERIAL!!!

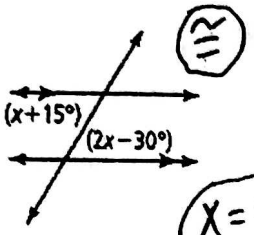
Math 3

Geometry Part 1 Study Guide

Unit 6

Directions: Find the value of each variable. Then find the measure of each labeled angle.

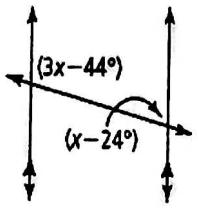
1.



≅

X = 45

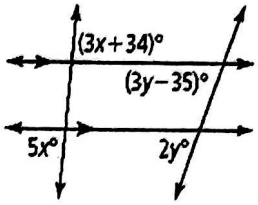
2.



S

X = 68

3.

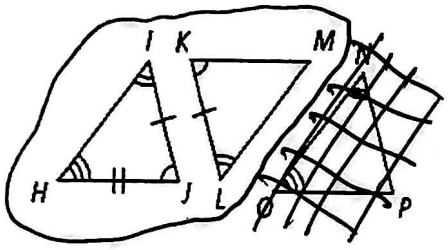


X = 17

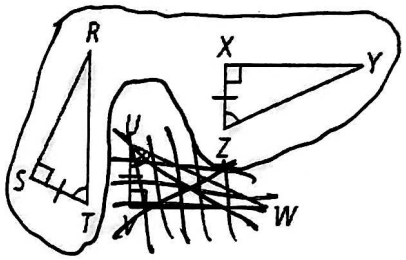
Y = 35

Directions: Name two triangles that are congruent by ASA.

4.

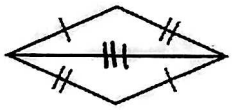


5.



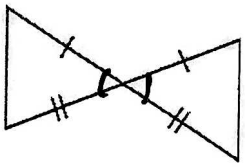
Directions: Would you use SSS or SAS to prove these triangles congruent? If there is not enough information to prove the triangles congruent by SSS or SAS, write *not enough information*. Explain your answer.

6.



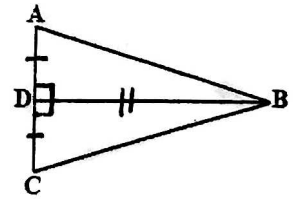
SSS

7.



SAS

8. Given: $\overline{BD}$ is the perpendicular bisector of $\overline{AC}$
Prove: $\Delta BAD \cong \Delta BCD$



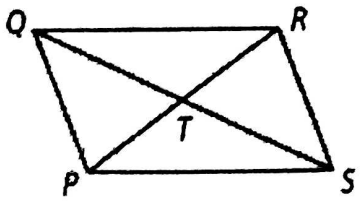
Statements	Reasons
1) $\overline{BD}$ is the perpendicular bisector of $\overline{AC}$.	1) Given.
2) $\overline{AD} \cong \overline{CD}$	2) Definition of segment bisector.
3) $\angle ADB$ and $\angle CDB$ are right $\measuredangle$.	3) Definition of perpendicular.
4) $\angle ADB \cong \angle CDB$	4) All right angles are congruent.
5) $\overline{BD} \cong \overline{BD}$	5) Reflexive Property
6) $\Delta BAD \cong \Delta BCD$	6) SAS

Homework 6.3: Parallelograms

Name: Mr. Morton

Math 3

1. Use the diagram below to solve for x and y if the figure is a parallelogram.



a) PT = 2x, QT = y + 12, TR = x + 2, TS = 7y

$2x = x + 2$ | $y + 12 = 7y$

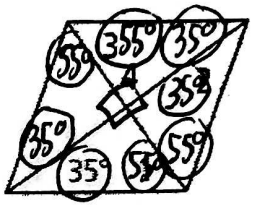
$x = 2$ | $y = 2$

b) PT = y, TR = 4y - 15, QT = x + 6, TS = 4x - 6

$4x - 6 = x + 6$ | $4y - 15 = y$

$x = 4$ | $y = 5$

2. Find the measure of each angle if the figure is a rhombus.



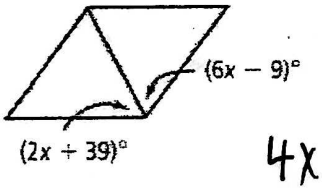
a) Find the m∠1. 55°

b) Find the m∠2. 35°

c) Find the m∠3. 55°

d) Find the m∠4. 90°

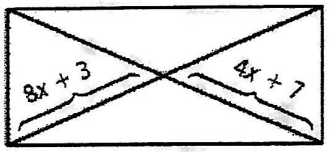
3. Solve for x if the figure is a rhombus.



$4x = 48$

$x = 12$

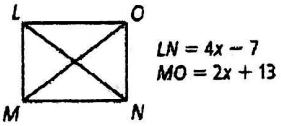
4. Solve for x if the figure is a rectangle.



$4x = 4$

$x = 1$

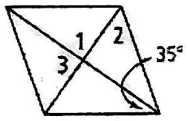
5. What is the length of LN if the figure is a rectangle?



$x = 10$

$LN = 33$

6. Solve for the missing angle measures if the figure is a rhombus.



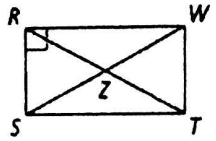
$m\angle 1 = 90°$

$m\angle 2 = 55°$

$m\angle 3 = 90°$

7. What is the length of SW?

RZ = 2x + 5,
SW = 5x − 20



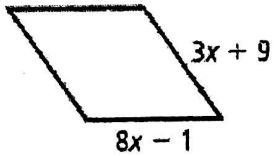
$2(2x + 5) = 5x - 20$

$4x + 10 = 5x - 20$

$x = 30$

$SW = 130$

8. Solve for x if the figure is a rhombus.



$5x = 10$

$x = 2$

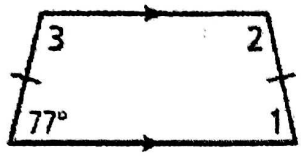
Homework 6.4: Quadrilaterals

Name: Mr. Morton

Math 3

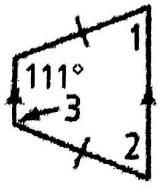
Directions: For questions #1-2, find the measure of each missing angle.

1.



$m\angle 1 = 77°$
$m\angle 2 = 103°$
$m\angle 3 = 103°$

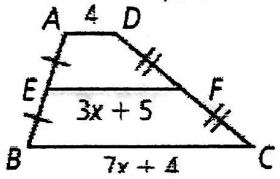
2.



$m\angle 1 = 69°$
$m\angle 2 = 69°$
$m\angle 3 = 111°$

Directions: For questions #3-4, find x and the length of EF.

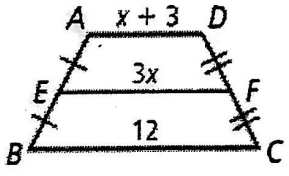
3.



$\frac{1}{2}(7x+4+4) = 3x+5$

$x = 2$ $EF = 11$

4.

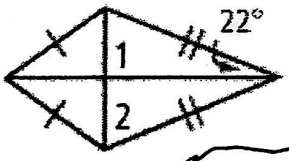


$\frac{1}{2}(x+3+12) = 3x$

$x = 3$ $EF = 9$

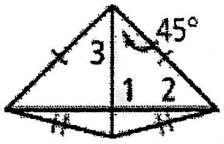
Directions: For questions #5-6, find the measures of the numbered angles in each kite.

5.



$m\angle 1 = 90°$
$m\angle 2 = 68°$

6.



$m\angle 1 = 90°$
$m\angle 2 = 45°$
$m\angle 3 = 45°$

Challenge Question: Solve for the unknown angle measures in the kite shown below.

$m\angle 1 = 112°$
$m\angle 2 = 112°$